<u>Title:</u> Food Scientist Advanced – Dairy Technical Specialist

POSITION SUMMARY

This is an advanced scientific and technical position which provides consultation on the dairy industry and training to internal and external partners and regulated industry. This position reports to and is under the general supervision of the Environmental Health Services Supervisor within the Dairy, Compliance Services Section of the Bureau of Food and Recreational Businesses, Department of Agriculture, Trade and Consumer Protection.

The employee has significant responsibility for the development, presentation, and distribution of information to regulated industries, Division staff, and the public concerning bureau requirements, activities, and current issues. This position assists management in developing guidelines, policies, and regulatory requirements concerning technical issues. The employee will be responsible for representing the bureau in program leadership. This position will routinely interact with individuals and organizations representing the dairy industries. This position will routinely interact with other state and regulatory agencies having jurisdiction over this industry. This position will provide recommendations for statutory and administrative rule development and revisions.

This advanced technical position may also include involvement in any or all of the following areas:

- Provides training and technical assistance to bureau staff, the dairy industry and dairy industry workgroups in the areas of dairy pasteurization systems, equipment design, construction and installation; dairy processing system assessment, policy and procedure development, building design and materials.
- Reviews and evaluates complex food processing systems, computerized control systems, and programming methodologies; identify and understands food pathogens and hazards and evaluates electrical and mechanical plans and diagrams.
- Verifies complex pasteurization equipment assuring all public health controls are functioning properly, reviews and evaluates complex processing systems to verify that critical food safety systems are in place and effectively monitored and assists division staff in performing inspections of highly technical dairy processing operations.
- Provides training and technical assistance in the areas of complex food processing system
 assessment, food safety program design, policy and procedure development, FDA
 contract audit evaluation, preventive controls, public information and food emergency
 follow-up.
- Acts as the primary resource for review and evaluation of the food processing programs and coordination of the Bureau's food defense activities related to dairy.

TIME % GOALS AND WORKER ACTIVITIES

40% GOAL A: Analyze and evaluate food processes/systems to ensure food safety.

- A.1. Verify food safety control procedures for pasteurization systems (time and temperature relationships, thermometer accuracy, and pressure relationships) and properly document to assure compliance with State regulatory and Federal (Pasteurized Milk Ordinance) requirements.
- A.2. Verify the operation of computerized controls for dairy pasteurization and processing equipment to ensure proper operation in compliance with food safety requirements. Ensure standards are met for system operational design to include electrical wiring diagrams, computer

- programming (e.g., ladder logic) and process control program parameters (e.g., Safety Thermal Limit Recorders, Safety Flow Limit Recorders, and variable frequency drives).
- A.3. Analyze and evaluate plans for Hazard Analysis and Risk-Based Preventive Controls processing systems.
- A.4. Verify Food Safety Modernization Act (FSMA), Current Good Manufacturing Practices (CGMP's), Hazard Analysis and Risk-Based Preventive Controls plans, (e.g., Food Safety Plans, Sanitary Standard Operating Procedures (SSOP's), Allergen Control programs) on site.
- A.5. Review and approve Hazardous Analysis Critical Control Point (HACCP) systems and perform initial field evaluations for dairy processing systems operating under alternative cleaning and sanitizing procedures, i.e., beyond 24 hours between cleaning cycles.
- A.6. Verify food safety operational functions of Automatic Milking Installations (cross-contamination control, e.g., cleaning chemicals, antibiotic (+) milk) and properly document these functions to assure compliance with State regulatory and Federal (Pasteurized Milk Ordinance) requirements.
- A.7. Review the design and verify the operation of regulatory food safety controls for aseptic processing of dairy products.
- A.8. Evaluate food safety systems in response to disaster/emergency investigations of food borne illnesses and food contamination, or food adulteration.
- 15% GOAL B: Evaluate construction blueprints and engineering drawings for dairy production and processing facilities. Evaluate dairy and food processing and/or equipment for compliance with established regulatory design and construction requirements. Performance of field evaluations to determine compliance with food safety-related State and Federal requirements and standards for installation and operation.
- B.1. Review construction and remodeling plans for dairy facilities, including blueprints or line drawings which are submitted showing major design details. Ensure compliance with current standards (e.g., floors, windows, drains, lay-out of equipment, hand wash facilities, lighting, etc.).
- B.2. Review computer programming (e.g., ladder logic) electrical wiring diagrams, and process control program parameters (e.g., Safety Thermal Limit Recorders, Safety Flow Limit Recorders, and variable frequency drives) for dairy pasteurization and dairy processing systems.
- B.3. Review plans for the installation of equipment and process control systems in dairy plants and dairy farms. Ensure standards are met for materials, design techniques and installation.
- B.4. Review equipment drawings and fabricated equipment for the food and dairy processing industry for compliance with Administrative Rules and current sanitary construction guidelines, i.e., 3-A Sanitary Standards and Accepted Practices, USDA Guidelines for the Sanitary Design and Fabrication of Dairy Processing Equipment, etc.
- B.5. Review plans for dairy barns, milk houses, and milking parlor construction or alterations. Review plans for installation of milking, dairy cattle housing, manure storage, farm water supplies and feed handling systems.
- B.6. Provide written documentation to all parties of the results of each evaluation including any technical changes required.

- B.7. Consult with dairy plants and dairy equipment installers and provide technical advice during facility construction and/or the installation of complex dairy processing systems and equipment, including but not limited to pasteurizers, reverse osmosis and ultrafiltration equipment, evaporation units, aseptic packaging, and cooling systems. Apply knowledge gained from the consultation process to future installations as new systems emerge.
- B.8. Assist in evaluating the operation of new and prototype equipment to assure compliance with food safety requirements and sanitary standards.

15% GOAL C: Provide expert technical assistance and training to Bureau staff and industry on complex program issues, as well as technical operational systems.

- C.1. Develop, coordinate and deliver training on the food safety requirements of the operation of dairy processing facilities, equipment and Risk-Based Preventive Controls plans, (e.g., Food Safety Plans, Sanitary Standard Operating Procedures (SSOP's), Allergen Control programs) for a variety of audiences (e.g., Bureau staff, dairy processors, equipment installers, equipment and machinery fabricators and other regulatory agencies).
- C.2. Evaluate industry requests for variances (equipment, processes, etc.) and alternative cleaning and sanitizing schedules and make recommendations to management for acceptance.
- C.3. Monitor the implementation of new technologies (e.g., robotic milking systems, alternate pasteurization systems) and new processing equipment (e.g., ultraviolet light, high pressure processing, ozone).
- C.4. Discuss newly developed and changing process and equipment technologies within the Dairy Services Section and provide guidance to evaluate dairy processing systems and equipment.
- C.5. Provide on-site guidance to Environmental Health Sanitarians in complex inspection assignments, including the safety of new product processing and packaging systems.
- C.6. Provide technical evaluation and support skills to outside cooperative workgroups and committees for dairy processors, equipment installers, equipment and machinery fabricators and other regulatory agencies, e.g., 3-A, Dairy Practices Council, Atlantic-Midwest Dairy Equipment Review Committee (AMDERC).
- C.7. Provide technical training at academia (University of Wisconsin) and industry sponsored short-courses related to dairy pasteurization and dairy processing systems.
- C.8. Review and evaluate Grade A product lab results against recognized standards (PMO) and provide feedback to Bureau staff and industry partners.
- C.9. Evaluate Cheesemaker and Buttermaker qualifications and determine equivalency of training programs for compliance with ATCP 69, Wisconsin Administrative Code for Buttermakers and Cheesemakers.
- C.10. Provide guidance to inspection staff and industry on the development of dairy product labels to include compliance with 21 CFR and Nutritional Labeling and Education Act (NLEA) criteria.
- C.11. Review technical literature, journals, and related materials on topics that include new processing techniques, test methodologies and bacteriological studies that impact safety of dairy processing parameters.
- C.12. Develop and proctor certification exams (e.g. Certified Pasteurizer Operators)
- C.13. Develop educational materials.
- C.14. Research and review technical literature, laws, regulations and dairy product standards as necessary to make training accurate, thorough and current.
- C.15. Assist in the evaluation of the Bureau's training program and make recommendations for improvement.

15% GOAL D: Audit and evaluate dairy inspection programs and Division staff under State and FDA contract guidelines.

- D.1. Obtain certification to conduct FDA contract audits of dairy inspection staff under the Food Safety Modernization Act (FSMA), Current Good Manufacturing Practices (CGMP's) and Hazard Analysis and Risk-Based Preventive Controls, ATCP 65, Wisconsin Administrative Code for Milk and Milk Products and internal guidance.
- D.2. Conduct audits of dairy inspection staff in conjunction with internal DATCP audit programs and FDA contract audits of dairy product manufacturing facilities, to include the preparation of audit reports and associated correspondence detailing deficiencies of public health significance
- D.3. Make recommendations to management to improve program deficiencies noted during audits of dairy inspection of staff and associated programs.
- D.4. Assist other Dairy Technical Specialists in audit techniques and audit consistency.
- D.5. Develop and maintain audit schedules to meet requirements of FDA contract and DATCP internal audit programs.
- D.6. Provide corrective action training as necessary to Division staff.

5% <u>GOAL E:</u> Provide assistance to management staff in the development and management of policies and program procedures, including compliance activities.

- E.1. Participate in the development of statewide policies for the enforcement of the Administrative Rules. Research and develop recommendations on technical issues.
- E.2. Make recommendations to management to ensure effective, uniform enforcement of state and federal food laws and regulations. Topics reviewed may include: building and sanitary design, uniform application of technical standards, HACCP consultation, and related scientific or regulatory information.
- E.3. Assist management in developing guidelines and policies on dairy facilities and food and dairy equipment for a variety of operations and activities.
- E.4. Assist in providing interpretations of the bureau's technical policies and procedures.

 Disseminate information and deliver training regarding technical developments and changes in policies to aid industry in complying with rules and regulations.
- E.5. Conduct in-plant evaluations to assess the effectiveness of new guidelines or inspection procedures. Report findings and make any additional recommendations to management staff.
- E.6. Review and investigate complaints involving non-compliant equipment and installer practices to assure prompt follow-up and enforcement action as appropriate.
- E.7. Testify as an "expert" witness at public hearings, court cases and informal conferences.

5% <u>GOAL F:</u> Coordination and development of food defense planning and training. Perform related functions and activities as directed.

- F.1. Coordination and development of food and agriculture defense planning and training issues related to the division program activities.
- F.2. Serve as intra- and inter-divisional liaison as related to food defense.
- F.3. Serve as liaison with other agencies, regulated industries and the public as related to food defense.
- F.4. Represent Dairy Services and the Bureau on committees and work groups as related to food defense.

- F.5. Carry out special projects and assignments related to food defense.
- F.6. Provide intra- and inter-divisional liaison as related to the other duties of this position.
- F.7. Provide liaison with other agencies, regulated industries and the public as related to the other duties of this position.
- F.8. Carry out special projects and assignments as directed.

5% <u>GOAL G:</u> Coordination and direction of follow up to emergencies involving the commercial food supply.

- G.1. Compile information about reported or alleged food emergencies.
- G.2. Evaluate information including conducting research to determine the potential risk of the emergency as reported.
- G.3. Develop a plan for appropriate follow up of the emergency. (Depending on the type and degree of the problem this activity may range from casual informational, consultative contacts for a small, relatively simple problem to convening a panel of experts to formally assess a large, unique, or complex food emergency.)
- G.4. Perform, coordinate and direct responsibilities as assigned in the food emergency follow up plan.
- G.5. Log activities during the food emergency follow up and prepare a report when completed, including recommendations for improvement in the food production, processing, distribution system and/or the follow up system

Knowledge, Skills, and Abilities Required:

- A. Extensive knowledge of the scientific and technical principles of food safety, production, storage, handling, and distribution practices.
- B. Extensive knowledge of Wisconsin food laws and regulations administered by the DATCP Division of Food and Recreational Safety.
- C. Extensive knowledge of Food Safety Modernization Act (FSMA), Current Good Manufacturing Practices (CGMP's) and Hazard Analysis and Risk-Based Preventive Controls and related standards as prescribed in the Code of Federal Regulations (21 CFR 117), to include extensive knowledge of Food Safety Plans, Sanitary Standard Operating Procedures (SSOP's) and Allergen Control programs.
- D. Extensive knowledge of the guidelines and standards governing pasteurization systems, equipment, processing systems and cleaning systems used in the dairy industries; i.e., the Pasteurized Milk Ordinance, 3-A Sanitary Standards and Accepted Practices and USDA Guidelines for the Sanitary Design and Fabrication of Dairy Processing Equipment.
- E. Considerable knowledge of dairy process automation including computerized controls.
- F. Considerable knowledge of inspectional, investigational, and sampling techniques applicable to dairy processing establishments and products.
- G. Considerable knowledge of the principles and techniques of effective communications, including: public speaking, writing, educating, coaching, and negotiating.
- H. Working knowledge of basic food microbiology, and the effects on product quality and possible adulteration through product temperatures abuse or mishandling.
- I. Working knowledge of educational methods, adult learning, training principles and presentation techniques.
- J. Working knowledge of educational and public information principles and methods.
- K. Working knowledge of sanitary building construction and design.

- L. Working knowledge of word processing, data processing, graphics, publishing, and presentation software Microsoft Office applications.
- M. Knowledge of effective team member and/or team leader dynamics.
- N. Knowledge of effective organizational, evaluation and analysis skills.
- O. Knowledge of food emergency and/or food defense planning.

PHYSICAL DEMANDS

- 1. Must be able to remain in a stationary position to perform necessary job functions.
- 2. Must be able to move through and between inspection locations, through processing facilities and in and around processing equipment and utilities.
- 3. Must be able to position oneself to perform job functions at varied heights including evaluating equipment at levels from floor to table to ceiling heights
- 4. Must be able to ascend/descend ladders and work at elevated heights such as on catwalks.
- 5. Must have the ability to lift up to 50 lbs.
- 6. Must be able to detect and observe physical surroundings.
- 7. Must have the ability to complete outdoor job activities 12 months of the year. The employee will encounter inclement weather and extreme temperatures.

SPECIAL REQUIREMENTS:

- 1. Periods of travel will be expected. Including overnight travel. Routine travel throughout the state is required. Out-of-State travel may also be required and is anticipated to be less than 5% over the course of the year.
- 2. Possession of a valid driver's license; or, the ability to provide one's own transportation for work purposes.
- 3. Possession of, <u>or be eligible to become within 12 months</u>, a Wisconsin Registered Sanitarian license, or a National Environmental Health Association Registered Environmental Health Specialist (R.E.H.S)

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